

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in *Mentha arvensis* var. *piperascens***

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	(+)-CARVONE	Essential Oil	--	--		Jim Duke's personal files.
1	(+)-PIPERITENONE-OXIDE	Leaf	--	2900	-1.0692702191867607	
4	(+)-PULEGONE	Leaf	1100	8400	1.6412173114963589	
4	(+)-PULEGONE	Plant	--	25455	1	
3	(-)-BORNEOL	Leaf	500	600		
4	(-)-MENTHOL	Leaf	1500	9600	-0.13664468500079888	
2	(-)-MENTHONE	Leaf	500	4400	-0.41193606418331424	
1	(-)-PIPERITONE	Leaf	240	7700	1	
67	1,8-CINEOLE	Leaf	--	--		Jim Duke's personal files.
16	ACETIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
28	ALPHA-PINENE	Plant	10	300	-0.26916907964228254	
7	ANISALDEHYDE	Shoot	--	--		Jim Duke's personal files.
3	BETA-PHELLANDRENE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	BETA-PINENE	Plant	10	1445	1.124729385882718	
13	BETA-PINENE	Leaf	--	800	0.7508636062406463	
28	CALCIUM	Plant	13500	13500	-0.009562051564718019	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENENE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
1	CAPROIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
19	CARVONE	Essential Oil	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
19	CARVONE	Leaf	8100	26000	5.048754540985525	
31	CARYOPHYLLENE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
3	CIS-OCIMENE	Essential Oil	--	--		Jim Duke's personal files.
12	COPPER	Plant	20	20	0.6626022066114992	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
76	EUGENOL	Essential Oil	--	--		Jim Duke's personal files.
13	FORMIC-ACID	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
6	FURFURAL	Plant	2	5	-0.4983416206388216	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
11	GAMMA-TERPINENE	Leaf	--	900	1.36337998309933	
11	GAMMA-TERPINENE	Essential Oil	--	--		Jim Duke's personal files.
2	GERMACRENE-D	Essential Oil	--	--		Jim Duke's personal files.
2	GERMACRENE-D	Leaf	300	400	-0.20129073177947823	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	HESPERIDIN	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Plant	400	400	-0.2672486162776693	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
1	ISOMENTHOL	Essential Oil	--	--		Jim Duke's personal files.
3	ISOMENTHONE	Leaf	300	600	-0.4825959961896006	
3	ISOPULEGOL	Essential Oil	--	--		Jim Duke's personal files.
4	ISOPULEGONE	Leaf	240	770	-1.4142135623730947	
1	ISOVALERALDEHYDE	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
5	ISOVALERIC-ACID	Plant	30	90	1	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
3	L-MENTHOL	Plant	373	29515		
2	L-MENTHYL-ACETATE	Plant	85	4200		
60	LIMONENE	Leaf	20	3520	3.2552582140948236	
53	LINALOOL	Leaf	--	--		Jim Duke's personal files.
78	LUTEOLIN	Shoot	--	--		Jim Duke's personal files.
65	MAGNESIUM	Plant	2830	2830	-0.38378745316107926	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
14	MANGANESE	Plant	44	44	-0.3795487464259209	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	MENTHOFURAN	Plant	4200	12600	1.6912182092538641	
63	MENTHOL	Leaf	1000	24385	2.2215192266445816	
30	MENTHONE	Leaf	250	25680	2.6118994892791703	
30	MENTHONE	Plant	71	24000	3.4108177532842308	
22	MYRCENE	Leaf	10	2485	0.7240430590989703	
16	P-CYMENE	Leaf	9	29	-0.3760203807398916	
3	PIPERITENONE	Plant	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
2	PIPERITENONE-OXIDE	Leaf	260	7320	0.8759003813049827	
7	PIPERITONE	Leaf	240	7700	3.6970310693516097	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
7	PIPERITONE	Leaf	13	1285	0.3195633749094698	
14	POTASSIUM	Plant	35100	35100	0.9277235520248976	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
28	PULEGONE	Plant	100	24960	2.11770459496291	
1	RAFFINOSE	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
57	ROSMARINIC-ACID	Leaf	71	228	-0.9802701242157968	
57	ROSMARINIC-ACID	Plant	28000	28000	-0.022447952153288788	Fitoterapia No.62: 166.
1	SODIUM	Plant	860	860	-0.25647164723432153	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

<b>Activity Count</b>	<b>Chemical</b>	<b>Plant Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference Citation</b>
1	STACHYOSE	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
35	TANNIN	Plant	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
17	THUJONE	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Plant	28	28	-0.23812799612849617	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.